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LABORATORY

... for a brighter future

ALCF

*Argonne Leadership
Computing Facility*



U.S. Department
of Energy

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Argonne_{LLC}



A U.S. Department of Energy laboratory
managed by UChicago Argonne, LLC



ALCF Project Assistance

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How ALCF can help?

- Access to BGL
- Initial porting
- Performance tuning & scaling
- Help on choice of algorithms
- Performance model
- Input on computational readiness



Access to *BGL*

- Visit our website to fill out forms for getting access
- Each individual on the project must get a separate account
- Make sure all user agreements are signed
- Can request entire machine on Tuesdays for scaling runs

Porting, profiling, optimizing, scaling

ALCF's performance engineers can assist in:

- Initial porting - compiling and running the code on a small set of processors, familiarity with batch scheduler, etc
- Getting familiar with the performance & debugging tools
- Profiling and tuning “hot spots”
- Optimizing for the double hummer
- Using performance libraries

Porting, profiling, optimizing, scaling (contd)

- Scaling studies (measure computation communication characteristics)
- I/O tuning (libraries, PVFS, etc)
- Choice of algorithms
- Analysis of usage needs for inclusion in proposal

Performance model

- Analyze your application to come up with a performance model
- Can be used to predict performance as CPU, memory bandwidth changes
- Can be used to predict performance on large processor counts
- A good debugging tool

Computational readiness

- ALCF can provide feedback on computational readiness of your proposal

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